

WHAT IS CLAIMED IS:

1. An optical fiber distribution frame apparatus comprising:
 - a frame member having upper and lower module mounting brackets, the upper module mounting bracket spaced from the lower module mounting bracket, the frame member defining an interior;
 - a plurality of fiber optic modules mounted to the frame member, each module including a front and two mounting flanges, each mounting flange mountable to one of the upper and lower module mounting brackets;
 - wherein one of the modules defines a connection module and further including a rear spaced from the front, a spaced apart top and bottom positioned adjacent to the flanges, and opposed spaced apart sides, the connection module configured and arranged for housing a plurality of connection locations having exposed openings along the front, wherein the bottom, the rear, and the opposed sides defining a cable notch region, wherein the cable notch region defines an opening for a first cable;
 - a cable clamp mounted to the rear of the connection module;
 - wherein another one of the modules defines a storage module including first and second spools positioned on the front.
2. The apparatus of claim 1, wherein releasable fasteners mount each of the plurality of modules to the frame member.
3. The apparatus of claim 1, further comprising an enclosure surrounding the frame member.
4. The apparatus of claim 1, wherein the storage module includes a cable clamp positioned on the front for clamping a second cable.
5. The apparatus of claim 4, wherein the frame member has a cable tray and an opening sized for receipt of the second cable.

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6. The apparatus of claim 5, further comprising an enclosure surrounding the frame member, and a first cable including a plurality of fibers, the first cable mounted to the cable clamp of the connection module, the first cable passing through the opening in the bottom of the connection module, the plurality of fibers connected to the connection locations of the connection module, and further comprising a second cable held by the cable clamp of the storage module and including a plurality of fibers connected to the connection locations, at least one of the plurality of fibers of the second cable positioned around one of the first and second spools of the storage module.
7. The apparatus of claim 6, wherein another one of the modules is a blank module defining a generally planar front.
8. The apparatus of claim 1, wherein two connection modules are provided, and wherein the storage module is positioned between the two connection modules.
9. The apparatus of claim 8, further comprising an enclosure surrounding the frame member and two first cables each including a plurality of fibers, each first cable mounted to the respective cable clamp of the respective connection module, each cable passing through the opening in the bottom of the respective connection module, the plurality of fibers of each cable connected to the connection locations of the respective connection module, and further comprising a plurality of fiber patch cords linking a plurality of the connection locations of one connection module to connection locations of the other connection module, wherein at least one of the fiber patch cords is positioned around one of the first and second spools of the storage module.
10. The apparatus of claim 1, wherein the connection module includes a splice component for splicing between the first cable and cables connected to the connection locations.

11. The apparatus of claim 1, wherein the connection module includes an optical coupler for linking the first cable and cables connected to the connection locations.
12. The apparatus of claim 11, wherein the optical coupler includes a splitter.
13. The apparatus of claim 11, wherein the optical coupler includes a wavelength division multiplexer.
14. The apparatus of claim 1, wherein the connection locations are each defined by an adapter configured and arranged for receiving an optical fiber connector.
15. A method of assembling an optical fiber distribution frame comprising the steps of:
 - providing a frame member having upper and lower mounting locations;
 - mounting the frame member to an enclosure extending from the ground over at least two fiber optic cables;
 - selecting a plurality of fiber optic modules for mounting to the frame member selected so as to fill the frame member with desired functions, at least one of the modules including a connection module for mounting to a cable in the rear, and
 - providing a plurality of connection locations on the front, a further module including a storage module including at least one spool on the front;
 - mounting each of the selected modules to the upper and lower mounting locations of the frame member so that the fronts face the same direction; and
 - connecting the two cables through the connection modules.
16. The method of claim 15, wherein two connection modules are mounted to the frame member, with the storage module positioned between the two connection modules, the two cables each mounted to a respective connection module with a clamp, the two cables connected to one another through at least one patch cord connecting connection location on the fronts of each of the respective connection modules.

17. The method of claim 15, wherein one of the cables is mounted to the storage module with a clamp.

18. An optical fiber distribution frame for use with modules and mountable to an enclosure comprising:

a frame member defining an interior, and including an open front bounded by upper and lower module mounting brackets, each of the mounting brackets including a plurality of openings for receipt of fasteners to mount the modules to the mounting brackets, the lower module mounting brackets further including a plurality of openings each configured and arranged for selectively receiving at least one cable, the frame member including a rear spaced from the mounting brackets configured and arranged for mounting the frame member to the enclosure.

19. A connection module comprising:

a housing including a front and two mounting flanges, a rear of the housing spaced from the front, a top spaced apart from a bottom, the top and the bottom positioned adjacent to the mounting flanges, and opposed spaced apart sides;

a plurality of connection locations having exposed openings along the front; the bottom, the rear, and the opposed sides defining a cable notch region wherein the cable notch region defines an opening for receiving a first cable; and a cable clamp extending from the rear in the cable notch region.

20. The connection module of claim 19, wherein the connection locations include a plurality of adapters configured and arranged for connection to an optical fiber connector, the adapters positioned at an angle having a component angle in the direction of the bottom of the housing.

21. The connection module of claim 20, further comprising clips which are snap fit to the front of the housing, the clips each holding at least one adapter.

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22. The connection module of claim ¹19, wherein the connection locations include a plurality of adapters, and further comprising a first cable ²⁰connected to the housing by the clamp, and interior cables optically connected to the adapters, the interior cables optically connected to a splice, the splice optically connected to the first cable.

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23. The connection module of claim ¹19, wherein the connection locations include a plurality of adapters, and further comprising a first cable connected to the housing by the clamp, and interior cables optically connected to the adapters, the interior cables optically connected to an optical coupler, the optical coupler optically connected to the first cable.

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24. The connection module of claim ⁵23, wherein the optical coupler includes a splitter.

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25. The connection module of claim ⁵23, wherein the optical coupler includes a wavelength division multiplexer.

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26. The connection module of claim ⁶24, further comprising a splice between the first cable and the splitter.

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27. The connection module of claim ⁷25, further comprising a splice between the first cable and the wavelength division multiplexer.

28. A storage module comprising:
a body having a front, two ends, and two sides extending between the two ends;
the ends defining two mounting flanges including at least one hole sized for receipt of a fastener;
first and second spools positioned on the front in alignment between the two mounting flanges;

the sides including projecting cable guides.

29. The storage module of claim 28, further comprising a cable clamp positioned on the front for clamping a cable, the cable clamp positioned between the first and second spools and one of the mounting flanges.

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